

me the Letter promised me by the president of the U. S., for, as I have not yet had it, I somewhat fear that it has been missent.

Write to me at once, and believe me,

Your friend, John J. Audubon.

AUDUBON'S RECOMMENDATION OF BAIRD.

New York, July 30, 1842.

Knowing, as I do, Spencer F. Baird, Esq., as a Young Gentleman well qualified to assist in the arrangement, description, etc. of the specimens of Natural History brought home by the Exploring Expedition, and deposited in the National Institute at Washington City for the purpose of being published and thereby rendered useful to the world of Science; I take great pleasure in recommending him as a most worthy, intelligent, and industrious student of Nature, both in the field and in the museum, and I would feel great satisfaction in hearing that our Government had employed him in this national and important undertaking.

John J. Audubon.

NESTING HABITS OF THE HERODIONES IN FLORIDA.

BY A. C. BENT.

Plates XIX-XXI.

(*Concluded from p. 29.*)

Botaurus lentiginosus. AMERICAN BITTERN.

This species seems to be sparingly but generally distributed throughout the fresh water marshes of Florida, where it undoubtedly breeds. We did not find any of its nests but, as we spent very little time in suitable localities, this is not strange. We flushed a few American Bitterns from the saw-grass marshes on

the St. Johns River and from similar locations on Merritts Island. It probably nests in the saw-grass with its small relative, the Least Bittern, where its nest must be securely hidden.

In Monroe County, where there are practically no fresh water marshes south of the everglades, we failed to see an individual of either species of Bittern.

Ardetta exilis. LEAST BITTERN.

We found this little Bittern a common resident in all suitable localities — fresh water marshes — in Florida that we visited. It is so shy and retiring in its habits and so hard to flush that we undoubtedly overlooked it many times; if we had spent more time in exploring the saw-grass sloughs we should probably have found it very abundant. None of the birds that we saw seemed to be referable to Cory's Bittern.

We found nests containing fresh eggs in the St. Johns marshes on April 18 and 22 and on Merritts Island on April 26, 1902, four nests in all. The nests were all built in tall, thick tussocks of fine grass, higher than a man's head, growing in saw-grass sloughs. The nests were merely crude platforms of straws, measuring about 7 by 4 or 7 by 5 inches, well concealed in the centers of the tussocks and from 24 to 30 inches above the ground or water; they were exceedingly frail structures, barely able to hold the four bluish white eggs. Boat-tailed Grackles generally frequent the same localities as the Least Bitterns. In a small slough, about 30 yards square, on Merritts Island we found two nests of the Bitterns and five nests of the Grackles.

Ardea occidentalis. GREAT WHITE HERON.

Since the days of the illustrious Audubon very little has been written about this magnificent Heron, the grandest, the handsomest, and the shyest of its tribe. Its range within the United States is confined to the extreme southern coast of Florida and the mangrove keys, where it is really abundant and forms a striking feature in the landscape. It is no uncommon sight to see ten or twelve of these great birds standing in the shallow water



FIG. 1. GREAT WHITE HERON, HALF-GROWN YOUNG.



FIG. 2. GREAT WHITE HERON, FULL-GROWN YOUNG.

around the shores of some small estuary, patiently awaiting the approach of their prey, as motionless as white marble statues. When not fishing they may be seen perched on the outer branches of the mangroves, their pure white plumage standing out in marked contrast against the dark foliage, making them very conspicuous even at a great distance.

It is utterly useless to attempt to approach them at such times, for their eyesight, as well as their hearing, is very acute; they are extremely shy and will fly at the sight of an approaching boat half a mile away. It is almost as difficult to approach them on land, even under the cover of the mangroves, where the slightest noise will send them flying away croaking hoarsely. Only once was I able to outwit them, on one of their favorite roosting keys, where, after stalking them fruitlessly for several hours, I finally concealed myself among some thick underbrush and awaited their return; I was rewarded by securing two fine specimens as they flew over on their way to their evening roost. In all their movements they are deliberate and dignified; in flight they are slow, direct and powerful, with steady strokes of their great wings, the head drawn in upon the shoulders and the long legs stretched out straight behind.

On several of the Keys we found empty nests of large Herons, some of which were probably referable to this species, but we found only one of their breeding colonies. This was on one of the Oyster Keys where on April 29 we discovered a small rookery of half a dozen pairs of Great White Herons and one or two pairs of Ward's Herons. The key was very small, less than an acre in extent, of the mud key type with a little dry land in the centre, overgrown with a thick tangle of underbrush; the usual strip of red mangroves occupied the whole of one end of the island where we nearly overlooked the little colony of nests which were all grouped about a small inlet or bay. The Herons had all left the island, silently and unobserved, long before we landed, and an occasional glimpse of a great white bird in the distance was all we saw of the parents of the helpless young, whose identity fortunately was beyond question. A Ward's Heron flew over us within gunshot, but the Great White Herons never came anywhere near it.

There were four nests of the Great White Heron, all on the outer ends of the horizontal branches of the mangroves, over the water and from 10 to 20 feet above it. The nests, much resembling those of the Great Blue Heron, were large flat platforms of large sticks, smoothly lined with coarse twigs and dry mangrove leaves. The only one that I measured was about 35 by 28 inches outside, and the inner cavity about 15 inches in diameter. This nest contained two eggs and one young bird, just hatched, covered with white hair-like down. A nest near by held two young, about one quarter grown, and one addled egg. Another nest contained three young birds, about half grown, pure white and very pugnacious; they bristled up their plumage, squawked and snapped their bills vigorously, while their throats were vibrating rapidly as if panting from fear or excitement; sometimes they would lie on their sides as if completely exhausted, panting rapidly all the time. They objected decidedly to having their picture taken and refused to pose at all gracefully.

The most interesting nest of all was about twenty feet up on the outer end of a leaning red mangrove and the two large white birds in it could be plainly seen from the ground; they were nearly fully grown, fully feathered and pure white all over, almost indistinguishable from adults. When I climbed the tree one of them stood up in the nest and posed gracefully in dignified silence, while I took as many photographs as I cared to of the beautiful picture.

The eggs of the Great White Heron are not distinguishable from those of the Ward's Heron in size, shape or color, though they are somewhat larger than those of the Great Blue Heron; the only two I collected measured 2.67 by 1.84 and 2.60 by 1.81 inches; they are of the usual heron's egg color, pale greenish blue. But the young are always distinguishable by their pure white color from the day they are hatched.

The Great White Herons are well able to take care of themselves, as they are very difficult to shoot and not in demand for millinery purposes. Their rookeries are small and too much scattered to offer much temptation to nest robbing negroes.

Ardea herodias wardi. WARD'S HERON.

The southern representative of the Great Blue Heron is one of the characteristic birds of Florida and for so large a bird is decidedly abundant; especially so along the Indian River where it is usually the first of the Herons to be seen; as the train runs along close to the river, just above Titusville, the shore seems to be lined with Ward's Herons, standing like sentinels at frequent intervals or flapping lazily away for a short distance; sometimes one will scale along on motionless wings close to the water until it can drop its long legs down and alight on some favorite bar. While fishing it stands quite motionless for a long time, waiting for its prey with dignified patience, well becoming the largest member of its group. In general habits it closely resembles its northern relative, but it is not so shy as the Great Blue and not nearly as difficult to stalk as the Great White Heron.

I believe the Ward's Heron is evenly distributed all over the State of Florida and is everywhere common. We found them breeding in small willow hammocks on the prairies of the interior and in the larger willows along the St. Johns River, where nests with newly hatched young were found on April 21. The nests were bulky affairs, made of large sticks about like those of the Great Blue Heron, and were placed in the largest willows, about 10 or 12 feet from the ground. They do not nest in colonies here, or elsewhere that I have observed them, but the nests are scattered about singly or in disconnected groups. The young are grotesque and homely, being but scantily covered with filamentous down of a dirty grayish color.

In Monroe County we found them breeding with the Great White Herons in small numbers and we saw them or their empty nests on many of the keys. Here their nests were built in the red mangroves or on the tops of bushes, never more than half a dozen or so in a group. We found only one occupied nest in this region, which on April 29 contained two small young; the nest was about 25 feet up in a red mangrove in the Great White Heron colony. Both of these large Herons are early breeders and, as we generally saw both species together, it was impossible to identify the many nests from which the young had flown.

Probably the young learn to fly soon after leaving the nest, for we found no young birds in the trees about any of the nests, as we did with all of the smaller Herons.

Herodias egretta. AMERICAN EGRET.

This beautiful plume bird is, I am sorry to say, fast becoming a rare bird in Florida, though it still occurs in small numbers all through the interior of the State. It is by no means wary, is so strongly attached to its home and is so courageous in the defence of its young that it has been an easy matter for the plume hunters to annihilate rookery after rookery. In Brevard County we visited two localities, small cypress swamps, where the year before large breeding rookeries of Egrets existed, but not an occupied nest was to be seen and only two or three scattering birds flying off in the distance. On the upper St. Johns we saw a few American Egrets but found no nests. It is known here as the "big white heron" and can be distinguished at a distance from the Snowy or Little Blue Herons by its slower and heavier flight. Undoubtedly a few Egrets still breed in this region in the rookeries with other species.

In Monroe County we found the American Egrets breeding sparingly in the large rookeries with the White Ibises and the smaller Herons. Among the 4000 birds at the Cuthbert rookery we counted 18 American Egrets and found seven nests. The birds were very tame, constantly alighting in the trees near us, and we could easily have killed as many as we wanted, but the A. O. U. warden, Mr. G. M. Bradley, who acted as our guide, was so solicitous for their welfare that we refrained from shooting a single bird; one wounded bird, unable to fly, was the only specimen we obtained. Most of the nests were in the low red mangroves over the water, but one was near the top of a black mangrove on a horizontal branch 15 feet from the ground.

The nests were about as large as Night Heron's, loosely and poorly made of coarse sticks and not as smoothly lined as most Heron's nests. Three of the nests held eggs, one set of two and two sets of three, of the typical color, light greenish blue varying in intensity. The other nests had young of various ages, from

one quarter to two thirds grown, covered with pure white down until the white plumage appears.

The young were very precocious, even when half grown, leaving the nest at the slightest provocation and climbing nimbly over the surrounding branches; it was surprising to see how fast and how far they could travel without falling; they were so lively that it was a difficult matter to photograph them successfully.

I cannot too strongly urge the necessity of protecting this species and its smaller relative, the Snowy Heron, if they are to be saved from utter extinction. These two are the principal sufferers from the destructive persecution of the plume hunters; but, fortunately for them, they are now so rare everywhere, except in the most inaccessible localities, that it hardly pays to hunt them; though an increased demand for aigrettes at higher prices might prove disastrous. Under adequate protection, with a thorough posting of the rookeries and with strict enforcement of the very good laws now in force, there are probably enough Egrets left to partially restock their former haunts.

Egretta candidissima. SNOWY HERON.

What I have already said about the disappearance of the Egrets is also true of this species. Although once very abundant all through Florida it has now been nearly exterminated, comparatively speaking, but I am hopeful enough to think that the work of destruction has been checked in time to save this beautiful species from extinction. There are still a few Snowy Herons left in the big rookeries of the upper St. Johns, and a number of them still breed in the more inaccessible rookeries of the Cape Sable region. In the former locality we spent all of one day and part of another in the largest of the rookeries at Braddock Lake, where hundreds of Louisiana Herons and many Little Blue Herons were breeding, trying to identify the nests of the various species among which were a few Snowy Herons. We were unable to determine how many of this species were nesting there and I succeeded in positively identifying only two nests of the Snowy Heron. This rookery was on a small muddy island, in

the middle of the great marsh, covered with a thick growth of small willows from 12 to 15 feet high.

Although all three species of Herons were very tame, alighting on the trees all about us, they were very careful not to settle down on to any of the nests within sight of us; it was only by lying for hours carefully hidden under some thick clumps of large ferns that I was able to satisfactorily identify a few nests. The first nest of Snowy Herons, containing four eggs, was placed 8 feet up in a slender willow and was merely a flimsy platform of small sticks. The second nest held five eggs and was located only 5 feet up in a leaning willow; it was made of larger sticks and lined with fine twigs. Neither the nests nor the eggs of the Snowy Heron are in any way distinguishable, so far as I could determine, from those of either the Louisiana or the Little Blue Herons. It is necessary to see the bird actually sitting on the nest to make identification sure; even then young Little Blue Herons in the white phase are liable to lead to confusion and it is necessary to see the black legs and yellow feet or the graceful plumes of the Snowy Heron. We did not see any Snowy Herons anywhere except in the breeding rookeries and even there they were very shy.

Hydranassa tricolor ruficollis. LOUISIANA HERON.

This beautiful and graceful little Heron is by far the most abundant of its family in all sections of Florida that I have visited. Fortunately its beauty is not expressed in plumes, hence it has escaped the merciless persecution of the plume hunters; but it is not without plumes, such as they are, which may lead to its destruction when the white aigrette supply is exhausted. Like all the small Herons its flight is light, rapid and graceful, the head drawn in upon the shoulders and the legs stretched out behind. While fishing it stands erect and motionless until some small fish swims within reach, when it crouches down close to the water, takes a few rapid steps forward and darts out its sharp bill like a flash, usually catching the fish near the surface.

We found the Louisiana Heron breeding very abundantly on the upper St. Johns; sometimes they were in rookeries by them-



FIG. 1. NEST OF LOUISIANA HERON.



FIG. 2. NEST OF LOUISIANA HERON.